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[54] **ELECTROPHORETIC DISPLAY PANEL WITH SEMICONDUCTOR COATED ELEMENTS**

[76] Inventors: **Frank J. DiSanto**, 27 Par Ct., North Hills, N.Y. 11030; **Denis A. Krusos**, 1 Lloyd Harbor Rd., Lloyd Harbor, N.Y. 11743

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[58] **Field of Search** 359/296; 340/787

[56] **References Cited**

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Primary Examiner—Eugene R. LaRoche
Assistant Examiner—Evelyn A. Lester

[57] **ABSTRACT**

A triode-type electrophoretic display includes a fluid-tight envelope for containing an electrophoretic fluid with suspended pigment particles and has a glass viewing window upon which has been deposited a plurality of parallel cathode members. A plurality of parallel Indium Tin Oxide cathode members are deposited on a surface of the window and are, in one embodiment, overcoated by a layer of SiO_2. A layer of photoresist is then deposited over the SiO_2 followed by a layer of Ni. The Ni and photoresist are etched down to the SiO_2 layer to form a plurality of parallel grid members residing in a second plane above and insulated from the plane of the cathode members. The cathode and anode members form a matrix with a plurality of intersections and are selectively electrically chargeable to induce movement of the particles within the fluid to or away from the individual intersections, localized concentrations of particles at the intersections being visible through the viewing window. In another embodiment, an additional layer of semiconductor is applied over the grid and photoresist insulation after etching.

20 Claims, 3 Drawing Sheets